

INDUSTRIAL PRINTING



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www.markingsolutions.co.za



Continuous Inkjet

Marking and Coding With Continuous Inkjet Printers

Our industrial inkjet printers are the perfect solution for all your product-marking requirements thanks to their wide variety of functions. Glass, films, cans, cardboard; various continuous inkjet printers, which are available, during ongoing production, mark cables, wood, plastics, metal and steel without contact. Special inks are used that dry in less than one second. At speeds of up to 10 m/s, any product surface—convex, concave, rough or smooth—can be marked with fixed and variable data.

Quick, Reliable Product Marking

Our Industrial inkjet printers represent the highest level of quality and reliability in product marking. The automated Sealtronic nozzle seal always prevents the ink in the printhead from drying out and a Sealtronic nozzle and integrated Solvent Saving Mode, solvent consumption is kept to a minimum to reduce operating costs.

Intuitive Operation

- With a Plug and Play system, our printers are ready to print in less than a minute.
- Windows-based interface and up to 10.4" touch screen display
- Large operating elements and wide variety of menu languages
- User-defined interface with fill level and speed display, etc.
- Customizable interfaces for direct access
- Illustrated operator instructions

The Right Function for Every Requirement

- Easily legible font types
- Height of the fonts: 5-32 drops
- Up to 5-line texts can be printed
- Prints all major barcodes and Data Matrix codes (ECC200, GS1, EAN/ECC)
- Graphics and font editor
- Batch Job function: A list of predefined jobs is printed in succession. A separate Print Go signal triggers each individual job. Repetitions of individual print jobs can be easily entered into the list.
- Job Select, a function for external job selection: You can select a certain job from a predefined list using external signals (PLC).
- Shoot and print function: Instead of selecting a job number manually, simply load the corresponding print job using a handheld scanner.

Typical Print Monitoring Tasks

- Variety of colored inks and soft pigmented inks
- Fast-drying solvent inks
- MEK-free, ketone-free and alcohol-based inks
- Temperature-resistant inks

Contact us for more detail.





Metal and Steel Marking

Marking and Coding of Metal and Steel

Marking printouts in the steel and metal industry have to endure a lot: Effects of weather, large temperature fluctuations, severe stresses, harsh environments and a vast assortment of surface qualities. Marking Solutions offer inkjet printers that are up to these requirements—thanks to state-of-the-art printer technologies, a wide ink portfolio and numerous hardware and software features.

Typical Markings

- Batch numbers/lot numbers
- Characters and text
- Model codes
- Expiration dates
- Company logos
- 1D and 2D codes

Materials

- Steel/stainless steel
- Iron
- Copper
- Brass
- Aluminum
- Gold
- Silver
- Metal plate
- Cans (beverage cans, tin cans, packaging cans, oil cans, etc.)

Examples of Typical Applications

- Special inks for the best durability, e.g. heat-resistant inks
- Cleaning bath-resistant markings
- Substituting labels
- Using pigmented inks (opaque inks) for high contrast on different colored backgrounds
- Marking after wire drawing
- Protection against tampering
- Comprehensive software and hardware accessories for easy and flexible integration of a printer in product lines
- Marking automotive parts made of steel and metal
- Imprinting aluminum spacers in window construction

Typical Print Monitoring Tasks

- Print monitoring/verification/image processing of various printouts
- Reliable monitoring of inkjet fonts (printouts of small character inkjet printers)



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Laser Industrial Printers

Laser Marking & Laser Engraving Systems for heavy industrial environments

Marking Solutions offer various laser marking and laser engraving systems for heavy industrial environments. Typically Green wavelength lasers and Fiber lasers are used in these environments. These laser marking machines offer extra power and speed for precision marking, and are the ideal choice for laser marking, scribing, trimming and other material processing applications. Their robust mechanical and optical design enables operation in an industrial environment, where shock, vibration and dust are a concern. Similarly Fiber laser offers reliable technology, which is designed to withstand the vigor's of a production environment and is best suited for continuous production environments.

Key Features

The following are important features that Green Wavelength Laser Marking and Fiber Laser Marking offer to heavy industrial environments.

- Marks a wide range of materials including metals and plastics
- No consumables are required
- Minimal maintenance
- Can be mounted in any orientation
- Longest focal tolerance
- Able to mark materials that other lasers can't
- Air cooled

Materials

- Metals
- Concrete
- Stone
- and plastics

Typical Environments

Typical environments where these laser marking machines would be used; include heavy-duty environments where deep or fast engravings are required and where operations are in an industrial environment, where shock; vibration and dust are a concern.



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Typical Markings

- Batch numbers/lot numbers
- Characters and text
- Model codes
- Expiration dates
- Company logos
- 1D and 2D codes

Materials

- Steel/stainless steel
- Iron
- Copper
- Brass
- Aluminum
- Gold
- Silver
- Metal plate
- Cans (beverage cans, tin cans, packaging cans, oil cans, etc.)

Examples of Typical Applications

- Special inks for the best durability, e.g. heat-resistant inks
- Cleaning bath-resistant markings
- Substituting labels
- Using pigmented inks (opaque inks) for high contrast on different colored backgrounds
- Marking after wire drawing
- Protection against tampering
- Comprehensive software and hardware accessories for easy and flexible integration of a printer in product lines
- Marking automotive parts made of steel and metal
- Imprinting aluminum spacers in window construction

Typical Print Monitoring Tasks

- Print monitoring/verification/image processing of various printouts
- Reliable monitoring of inkjet fonts (printouts of small character inkjet printers)



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Outer Case Coding

Marking and Coding of Packaging

Almost every product features a package intended to market the product perfect, but that also has to meet requirements for traceability and duties to inform. Therefore, along with the package design, package marking and coding is a crucial topic in various industries. Marking Solutions inkjet printers can be used to mark packaging reliably and the camera systems can be used to monitor markings and barcodes in every respect.

Typical Markings

- Expiration dates
- Batch numbers/lot numbers
- Characters and text
- Company logos
- Barcodes
- 2D codes, e.g. QR codes, DataMatrix codes, etc.
- Lottery codes/numbers
- Graphics

Materials

- Paper
- Cardboard
- Plastics like PET, PP, films, bags, etc.
- Glass
- Ceramic
- Metal, i.e. aluminum cans/tin cans/crown caps

Examples of Typical Applications

- Marking primary packaging
- Marking secondary packaging
- Labeling foodstuff packaging
- Imprinting pharmaceutical/drugstore packaging
- Coding tobacco packages
- Marking product packaging
- Outer packaging
- Package marking and coding in wet production environments
- Traceability/track and trace/identification
- Use of FDA-compliant inks

Typical Print Monitoring Tasks

- Print monitoring/verification/image processing of various printouts
- Monitoring the presence of items, such as dispensed products (cards or samples)
- Reliable monitoring of inkjet fonts (printouts of small character inkjet printers)
- Order logging



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Print and Apply Label Printers

Print & Apply Labeler Case Coding Printers

Marking Solutions print & apply labeling solutions utilizes Direct Apply™ technology, a unique on-demand labeling method that allows accurate placement of the label onto the package without the need for an applicator – even at high speeds. Print and apply systems are extremely beneficial in the shipping and manifesting process although they are not limited to shipping applications. Many companies have products that are time stamped, serialized, or require a variation in every label that is applied to the product or shipping box.

Typical Markings

- Time stamps
- Serial numbers
- Variation labels
- Compliance labeling
- Custom applications

Compliance Labeling

Many big box retailers and industry specific applications require compliance labeling. Compliance often consists of a label size, particular placement of the label, ability to read the barcode with an ANSI A or ANSI B quality score, and how boxes are stacked onto a pallet for easy scanning

Compliance labeling systems may be provided as standalone systems or fully integrated with existing conveyor lines. Contact us to learn more about any compliance of custom labeling solution.

Examples of Typical Applications

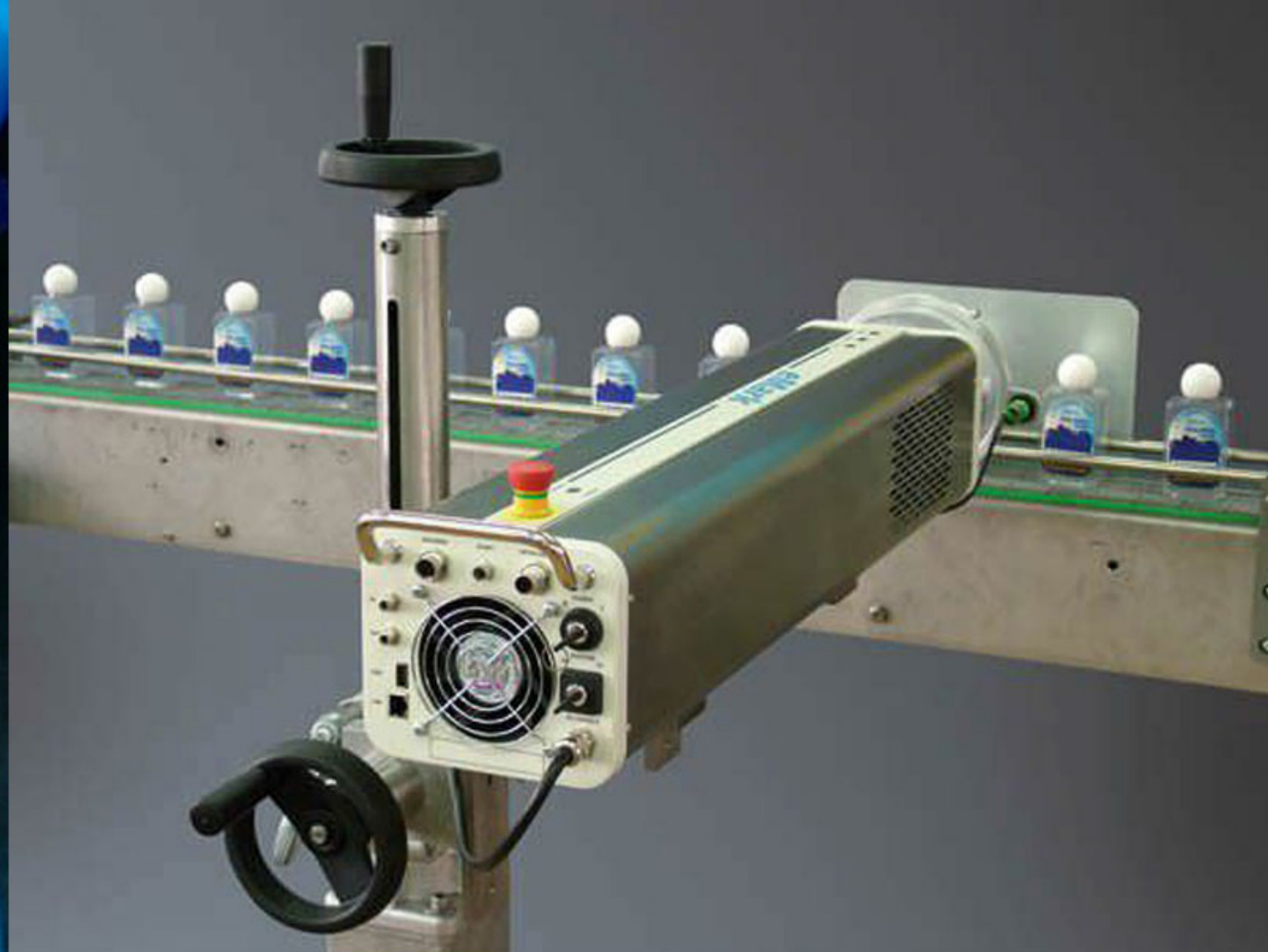
- Tamp
- Tamp-blow
- Air-blow technology.

Labeling Software and Control

One of the key ingredients to a successful labeling system is how it communicates to a host system or shipping software package. Many “hardware only” suppliers fall short of providing a full solution when it comes to controlling parcels on a conveyor system and integrating data to and from a host system.

Marking Solutions has various partners that are able to offer in-motion applications where data must be acquired, merged, and integrated into various systems. This includes interfacing with a host’s environment as well as shipping software packages such as ConnectShip, CMS, ProShip, ADSI, and many other multi-carrier packages.





Laser Coding

Laser Marking & Laser Engraving Systems

Marking Solutions offers a complete line of Vanadate, Fiber, Green Wavelength and Galvo CO2 laser marking machines to suit your marking and coding needs. Our lasers are designed to fit a number of industrial and packaging applications, whether you need to mark in static or continuous mode, and onto a variety of materials, such as glass, plastic, paper, cardboard, foils, coated metals, and building materials. Laser coding doesn't involve any inks or chemicals, making it a very clean, eco-friendly and cost-efficient method of marking your product.

Typical Markings

Amongst other markings, common markings include:

- Logos
- 2D codes
- QR codes
- Serial or batch numbers

Materials

- Paper
- Foils
- Wood
- Glass
- Metals
- Plastics
- Coated materials
- Ceramics
- Leather and many others.

Examples of Typical Applications

- Vanadate Laser Marking:

The term vanadate laser is usually used for lasers based on neodymium-doped vanadate crystals. Vanadate lasers are renowned for providing better quality marks due to their small, accurate spot size.

- Fiber Laser Marking:

A fiber laser is a laser in which the active gain medium is an optical fiber, doped with rare-earth elements. In layman's terms, it is a type of solid-state laser, where the laser light passes through the fiber, amplifying it to create a high-quality beam, which enables marking.

- Green Wavelength Laser Marking

Green wavelength lasers are fiber-coupled, diode-pumped, solid-state green wavelength lasers, which create high beam quality and laser stability. They offer extra power and speed for precision marking, and are the ideal choice for laser marking, scribing, trimming and other material processing applications.

- Galvo CO2 Laser Marking

The CO2 laser, otherwise known as a carbon dioxide laser is one of the more commonly used. These lasers are the highest-power, continuous-wave lasers.



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Thermal Transfer Printing

Thermal Transfer Technology

Thermal Transfer Printing Technology (TTO) was engineered as advancement over traditional analog coding technologies like hot stamp and roller coders. Thermal transfer printing brings digital technology to flexible film packaging applications, common in many food industries. The printing process applies a code to a flexible film or label by using a thermal print head and a thermal ribbon. The technology produces a very high-resolution code onto the package that is easy to read and also helps ensure no degradation of the aesthetic quality of the packaging film artwork and design.

Typical Markings

- Expiration dates
- Production date
- Barcodes
- Characters and text
- 2D codes, e.g. QR codes, DataMatrix codes, etc.
- Batch numbers/lot numbers

Thermal Transfer Ribbon

Thermal transfer ribbon has a very thin layer of dry ink on one side of a polyester film and a suitable print head lubricant on the other side. The ink layer is either a resin material or a mixture of wax and resin materials.

Examples of Typical Applications

- Intermittent Thermal Transfer Printing

Intermittent thermal transfer printing is used on lines where the packaging film moves in an intermittent motion (stop/start). The stop-time (dwell) within the cycle is used for printing. Using a signal from the packaging machine, the printer lowers the printhead onto the material and moves across the film to print. When complete, the printhead is raised and moves to the start position for the next package.

- Continuous Thermal Transfer Printing

On continuous flow lines, the packaging material is printed while the film is moving. The film runs between the printhead and a platen roller. After a start signal from the packaging machine, the printhead is pressed against the platen roller and printing is started. As the film is pulled through the filler, the printer prints on every package. A stop print signal causes the printhead to be raised.



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Paper Printing

Marking and Coding of Paper

Markings in the paper industry must be easily legible. Marking Solutions offers an ideal marking solution for many different kinds of paper. The product portfolio that Marking Solutions provides for customers from the paper industry also includes numbering on paper using numbering machines and monitoring the printed data using camera verifications systems.

Typical Markings

- Variable characters and text
- Continuous numbers
- Sheet margin numbering
- Meter marking
- Batch numbers/lot numbers
- Company logos
- 1D and 2D codes like barcodes, DataMatrix codes, QR codes, etc.
- Graphics

Materials

- Papers with different surfaces
- Cardboard/cardstock/corrugated cardboard

Examples of Typical Applications

- Marking in dusty production environments
- Personalization
- Numbering tax labels, lottery tickets, admission tickets
- Coding
- Printing variable data
- Traceability/track and trace/identification
- Marking packaging
- Use of FDA-compliant inks

Typical Print Monitoring Tasks

- Print monitoring/verification/image processing of various printouts in a partially dusty production environment
- Monitoring folding accuracy, measuring
- Working together with folding machines
- Monitoring the presence of items, such as dispensed products (cards or samples)
- Controlling rejection separators/pushers
- Reliable monitoring of inkjet fonts (printouts of small character inkjet printers)



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